Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Original) An automatic stop/start controller for a vehicle engine having an air conditioner which employs a coolant or driving force of said engine to control the air temperature in a vehicle interior, said engine capable of stopping and starting without operation of an ignition key, wherein after a predetermined automatic stop condition is satisfied and said engine is automatically stopped, a control unit maintains said engine in a stopped state as long as the duration of the automatic stop of said engine is shorter than an automatic stop maximum time period that is based on air temperature at an inlet of said air conditioner.

2. (Original) The automatic stop/start controller for the engine as defined in Claim 1, wherein said control unit executes control by means of the automatic stop maximum time period only when the air temperature at said inlet of said air conditioner is higher than a predetermined temperature.

3. (Currently amended) The automatic stop/start controller for the engine as defined in Claim 1, wherein ~~said~~a motor generator assists said engine in generating power at least during running of said vehicle.

4. (Currently amended) The automatic stop/start controller for the engine as defined in Claim 2, wherein ~~said~~a motor generator assists said engine in generating power at least during running of said vehicle.

5. (Previously presented) A vehicle, comprising:

an internal combustion engine, an electric motor-generator drivingly connected to the engine to assist in driving of the engine when functioning as a motor, and a transmission drivingly connecting the engine to vehicle wheels;

an air conditioner having a compressor driven from the engine for effecting cooling of the vehicle driver's compartment and having a heater core supplied with heated coolant from the engine for effecting heating of the vehicle driver's compartment, said air conditioner also having an inlet passage for supplying air to the heater core or the compressor, and an outlet passage for supplying air from the air conditioner to the driver's compartment; and

a start-stop controller for controlling automatic start and automatic stop of the engine without use of an ignition key;

said controller including a control unit which, after a predetermined automatic stop condition is satisfied and said engine is automatically stopped, maintains said engine in a stopped state as long as the duration of the automatic stoppage of the engine is less than a maximum automatic stop time period that is determined based on air temperature at the inlet passage of said air conditioner.

6. (Previously presented) The vehicle according to Claim 5, wherein said control unit controls start up of said engine by driving said motor when the duration of the automatic stop exceeds the maximum automatic stop time period.

7. (Previously presented) The vehicle according to Claim 5, wherein the control unit permits an automatic stop of the engine to occur only if the inlet air temperature to the air conditioner exceeds a determined threshold temperature.

8. (Previously presented) A process for controlling automatic start/stop of an internal combustion engine of a vehicle having an electric motor-generator drivingly coupled to the engine and also having an air conditioner provided with a compressor driven by the engine for supplying cooling air to the vehicle driver's compartment and having a heater supplied with heated coolant from the engine for supplying heated air to the driver's compartment, and a controller for permitting automatic stop/start of the engine without using an ignition key, comprising the steps of:

determining whether conditions for an automatic stop of the engine are satisfied by sensing at least the shift lever position, the depression of the brake pedal, and the throttle opening angle;

determining if the temperature of the inlet air to the air conditioner exceeds a defined threshold temperature;

determining a maximum time interval for an automatic stoppage of the engine based on the temperature of inlet air to the air conditioner;

stopping the engine if the automatic stop conditions are satisfied and the inlet air to the air conditioner exceeds said threshold temperature; and then

maintaining the stoppage of the engine only so long as the duration of the stoppage is less than the determined maximum time interval.